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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,226	06/02/2005	Shin'ya Katayama	02796/0202941-US0	2667
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EXAMINER				
KASHNIKOW, ERIK				
ART UNIT		PAPER NUMBER		
1794				
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10/15/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/537,226

**Applicant(s)**

KATAYAMA ET AL.

**Examiner**

ERIK KASHNIKOV

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,6,7,11-17,19-28 and 30-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7,11-17,19-28 and 30-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09/18/2008, 10/7/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Objections***

1. Claims 1, 2, 6, 7, 11-17, 19-28 and 30-32 objected to because of the following informalities: Copolymer in claim one appears to be misspelled as sopolymer. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1, 2, 6, 7, 11-17, 19-28 and 30-32 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 1 is rejected because it refers to the barrier layer twice using both "comprises and "constituted of" language. Given that one recitation uses open language (comprising) and the other appears to use closed language (constituted of), the scope of the claim is confusing given that it is not clear what is in the barrier layer

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:  
  
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 7, 26, 27, 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al. (JP 09-058650) in view of Ito et al. (US 4,623,587).
7. In regards to claims 1, 26 and 27 Tatsuhiko et al. teach a paper carton suitable for being filled with liquid contents (Paragraph 0001). Tatsuhiko et al. teach that the carton be comprised of a resin layer and a paper layer (Paragraph 0006). Tatsuhiko et al. teach a resin layer that can be an ethylene-vinyl alcohol copolymer (paragraph 0008). Tatsuhiko et al. teach polyethylene imine's can be used to coat the paper to promote adhesion (paragraph 0012), and further teach using DIKKU dry AC108 from Dainippin Ink & Chemicals (paragraph 0022). Given that Tatsuhiko et al. disclose use of polyethyleneimine known under the tradename AC-108 which is identical to the polyethyleneimine used in the present invention, it is clear that AC-108 would inherently possess formula as presently claimed. Tatsuhiko et al. also teach that adhesives can be used between resin layers and between resin and paper layers (paragraph 0015). Tatsuhiko et al. teach that the resin layers can be formed by coextrusion (paragraph 0014).
8. In regards to claim 2 Tatsuhiko et al. teach that the resin layer may be single or multilayer (paragraph 0009). The extra layers in a multilayer embodiment of the invention would place an extra layer on the opposite side of the barrier layer than the paper layer. As mentioned above Tatsuhiko et al. do teach the use of adhesives between resin layers.

9. In regards to claims 7 Tatsuhiko et al. teach the adhesive layer can comprise compounds such as ethylene methacrylic acid and a maleic anhydride polypropylene copolymer (paragraph 0015).
10. In regards to claim 28 while Tatsuhiko et al. are silent regarding using their containers to store soft drinks, they do mention that their containers are suitable for a wide variety of beverages (paragraph 0017), and it would have been obvious to one of ordinary skill in the art at the time of the invention to include soft drinks as beverages which may be stored by the container of Tatsuhiko et al.
11. In regards to claim 32 Tatsuhiko et al. teach that ethylene can be used as the polyolefin (paragraph 0015).
12. As stated above Tatsuhiko et al. teach a paper container for holding liquids. However they are silent regarding the die temperature when coextruding their product.
13. Ito et al. teach a multilayer film or sheet, with high adhesive bonding strength between layers (column 1 lines 7-9), which can be made into a container (column 6 line 11-15).
14. Ito et al. also teach that the film is formed by a coextrusion method in which the temperature at the die is held at 270°C (example 1 column 9 lines 10-13).
15. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Tatsuhiko et al. with that of Ito et al. because the invention of Ito et al. offers high adhesive bonding strength between the layers (column 1 lines 7-9).

16. Claims 6, 17, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al. (JP 09-058650) in view of Ito et al. (US 4,623,587) and Akao et al. (US 5,358,785).
17. As stated above Tatsuhiko et al. teach a paper carton suitable for being filled with liquid, as well as adhesive layers made from carboxylic acid and polyolefin resins (paragraph 0015). However they are silent regarding the polymers being graft polymers.
18. Akao et al. teach multilayer laminated films, formed using extrusion processes, which are used in packaging (Akao column 1 line 6).
19. In regards to claim 6 Akao et al. and Ito et al. teach that polyolefin resins graft modified by carboxylic acids are known in the art as adhesive resins used to join other resins (Akao column 29 line 23-29).
20. In regards to claim 30 Tatsuhiko et al. teach that the adhesive can be a maleic anhydride (Tatsuhiko paragraph 0015).
21. In regards to claim 31 Tatsuhiko et al. teach that ethylene can be used as the polyolefin (Tatsuhiko paragraph 0015).
22. In regards to claim 17, as stated above Tatsuhiko et al. teach that the polyethylene imine can be used to coat the base to promote adhesion to the subsequent adhesive layer (Tatsuhiko Paragraph 0012). Akao et al. teach the polyolefin modified carboxylic acid adhesive layers, but is silent regarding the melt flow rate. However since all the limitations of the adhesive are taught, the melt flow rate would be within the same range of applicants because it is an inherent property.

23. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Tatsuhiko et al. and Ito et al. with the invention of Akao et al. because the invention of Akao et al. has great tear strength and puncture strength (Akao column 1 lines 20-22).

24. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al. (JP 09-058650) in view of Ito et al. (US 4,623,587) and Miyake et al. (US 5,942,320).

25. As stated above Tatsuhiko et al. and Ito et al. teach a paper carton suitable for being filled with liquid, as well as using ethylene-vinyl alcohol copolymer as the barrier layer. However they are silent regarding the saponification of the ethylene vinyl copolymer.

26. Miyake et al. teach a multilayer barrier composite film with gas barrier properties (column 1 lines 5-6).

27. In regards to claim 11 Miyake et al. teach that ethylene vinyl alcohol copolymers with a ethylene content of 5-50% mol and a saponification of not less than 99.5% are the preferred barrier resins for their invention (column 11 line 58 - column 12 line 24).

28. In regards to claim 12 Miyake et al. teach all limitations of the composition of the ethylene vinyl alcohol copolymer and therefore the melt flow rate would be inherent.

29. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Tatsuhiko et al. and Ito et al. with the invention of Miyake et al.

because the invention of Miyake et al. offers prominent gas barrier properties against water vapor, oxygen and aromatic components (Miyake column 1 lines 6-8).

30. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al. (JP 09-058650) in view of Ito et al. (US 4,623,587) and Akao et al. (US 5,358,785) in further view of Miyake et al. (US 5,942,320).

31. As stated above Tatsuhiko et al. and Ito et al. teach a paper container suitable for holding liquids, but are silent regarding the thickness of the individual layers.

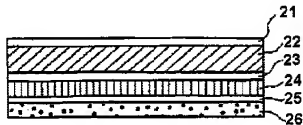
32. As stated above Akao et al. taught the adhesive layers. Akao et al. further teach that the adhesive layers have a thickness of 1-50  $\mu\text{m}$  (column 16 lines 63-64). However Akao et al. are silent regarding the thickness for a barrier layer. As stated above one of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Tatsuhiko et al. with the invention of Akao et al. because the invention of Akao et al. has great tear strength and puncture strength (Akao column 1 lines 20-22).

33. Miyake et al. teach the barrier layer described by applicants. They further teach that the barrier layer have a thickness that is between 0.05-15  $\mu\text{m}$  (column 14 lines 30-33).

34. One of ordinary skill in the art at the time of the invention would be motivated to modify the inventions of Tatsuhiko et al., Ito et al. and Akao et al. with the invention of Miyake et al. because the invention of Miyake et al. offers prominent gas barrier properties against water vapor, oxygen and aromatic components (Miyake column 1 lines 6-8).



35. Claims 14-16 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al. (JP 09-058650) in view of Ito et al. (US 4,623,587) and Frisk et al. (WO 00/44632 with US 6,974,612 relied upon as the translation).
36. As stated above Tatsuhiko et al. and Ito et al. teach a paper container for holding liquids.
37. Tatsuhiko et al. teach an outer layer but are silent as to the thickness of the individual layers and use of applicant's materials.
38. Frisk et al. teach a package material for paper containers (column 1 lines 6 and 7).
39. In regard to claim 14 Frisk et al. teach an innermost thermoplastic layer which has a thickness of 20-50  $\mu\text{m}$  (Frisk column 5 line 9).
40. In regards to claim 15 Frisk et al. teach that the innermost layer comprises a linear low density polyethylene (Frisk column 5 lines 26-27).
41. In regards to claim 16 Frisk et al. teach a melt flow index of 5-20 (Frisk column 5 line 18).
42. In regards to claim 19 and 20 Frisk et al. teach an outermost layer, which is on the opposite side of the paper base layer than the coextrusion laminated surface, which has a thickness of 10-25  $\mu\text{m}$  and a melt flow index of 5-20 (Frisk column 4 line 33-41 and figure 1).



43. In regards to claim 21 Frisk et al. do not teach any layer that is closer to the inner part of a container than the innermost layer described above. Frisk et al. do teach that the containers are to be filled with liquid contents (Frisk column 1 line 20-26). Therefore it is obvious to one of ordinary skill in the art at the time of the invention that the innermost layer is a content contacting layer.

44. In regards to claim 25 Frisk et al. teach that the innermost layer comprises a linear low density polyethylene (Frisk column 5 lines 26-27).

45. In regards to claims 22, 23 and 24 Tatsuhiko et al. teach coextrusion, single extrusion and sandwich lamination as methods for forming the film of their invention (Tatsuhiko paragraph 0014). While they do not specify it for any of the specific layers, it would be well within the ability of one of ordinary skill in the art at the time of the invention to apply these methods to the innermost layer.

46. In regards to claim 27 Frisk et al. teach the container can contain many various types of drinks but specify that the preferred embodiment of the invention is that the container contains a liquid food (Frisk column 13 line 3 - column 14 line 2). It is obvious to one of ordinary skill in the art at the time of the invention that a soft drink is a liquid food product.

***Response to Arguments***

47. Given that claim 28 was previously inadvertently not rejected by the prior art, the present action is non-final.

48. In regards to applicants arguments that AC-108 was not shown to have the same formula as presently claimed by Applicant's, Examiner points to paragraph 0145 of Applicant's specification which teaches the use of AC-108. Given that Tatsuhiko et al. disclose use of polyethyleneimine known under the tradename AC-108 which is identical to the polyethyleneimine used in the present invention, it is clear that AC-108 would inherently possess formula as presently claimed.

49. In regards to Applicant's arguments concerning the Ito reference it is noted that while Ito et al. do not disclose all the features of the present claimed invention, Ito et al. is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, and in combination with the primary reference, discloses the presently claimed invention. If the secondary reference contained all the features of the present claimed invention, it would be identical to the present claimed invention, and there would be no need for secondary references. Examiner also points out that the limitation in claim 1 concerning the temperature at which the film is co-extruded is a product by process claim. It has been shown that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of

a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (MPEP 2113 and *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966).

50. In regards to arguments concerning the location of the adhesive layer. Examiner points out that in paragraph 0015 of the Tatsuhiko reference, it is taught that the adhesive layer may be between the resin and the paper. Examiner also points out that the courts have ruled that "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others." *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967).

51. In regards to Applicant's arguments that one of ordinary skill in the art would not be motivated to use the Tatsuhiko reference because it has a different purpose than that of Applicant's invention. Examiner points out that even though the reference might have a different purpose than that of the invention presently claimed it does contain all the presently claimed limitations and that is why it is used as a reference.

52. In regards to Applicant's arguments that the PA-XD-6 used in the Tatsuhiko reference would degrade easily, examiner points out that "the arguments of counsel cannot take the place of evidence in the record", *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner's position that the arguments provided by the applicant regarding XD-6 layer must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or

affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001".

### ***Conclusion***

53. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIK KASHNIKOW whose telephone number is (571)270-3475. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (Second Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CALLIE E. SHOSHO can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erik Kashnikow  
Examiner  
Art Unit 4174

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1794